

WHAT IS CLAIMED IS:

1. In a system comprised of a network having a server communicably connectable to a plurality of devices, a method for communicating information comprising:

receiving at the server content addressed to a particular device;
typing at least one event reflected by the content;
generating a form containing data extracted from the content; and
making available to the particular device a notification of the event.

2. The method of claim 1, wherein typing at least one event reflected by the content, comprises:

extracting data from the content, the extracted data including a set of data elements;

filling fields of a set of templates with the data elements by matching fields to the data elements according to a determined type for each data element; and

identifying the event based on the filled fields of the templates.

3. The method of claim 1, wherein typing at least one event reflected by the content, comprises:

(a) tokenizing the content into a logical hierarchical tree representing parts of the content;

(b) applying to the logical hierarchical tree extraction pattern sets to recognize and tag proper names and pre-specified events in the content;

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

(c) linking any anaphoric expression to its referent, in the content; and

(d) filling fields of templates with corresponding information from the content

based on a result of the application of the pattern sets to the logical hierarchical tree, reflecting the linking of any anaphoric expression to its referent, in the content.

RECEIVED
JUN 10 1998
FBI
WASHINGTON, DC

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

4. In a system comprised of a network having a central controller communicably connectable to a plurality of devices, a method for communicating information comprising:

receiving at the central controller content including unstructured text addressed to a particular device;

typing at least one event reflected by the unstructured text;

generating a form containing data extracted from the unstructured text; and

making available to the particular device a notification of the event.

5. The method of claim 4, wherein typing at least one event reflected by the unstructured text comprises:

identifying the event in the unstructured text; and

identifying an event type for the event based on stored information reflecting event types.

6. The method of claim 4, wherein generating a form containing data extracted from the unstructured text comprises:

selecting a form type from a set of forms based on the type of event; and

populating fields of a blank form of the selected form type with the data from the unstructured text.

7. The method of claim 4, wherein generating a form containing data extracted from the unstructured text comprises:

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

populating fields of a form selected from a set of forms based on the type of event with the data from the unstructured text.

8. The method of claim 4, wherein making available to the particular device a notification of the event, comprises:

transmitting the notification of the event to the particular device.

9. The method of claim 4, wherein making available to the particular device a notification of the event, comprises:

prompting a user for a request for at least one of

(i) the form,

(ii) the form and the unstructured text,

(iii) an indication of the form and the unstructured text,

(iv) the form and an indication of the unstructured text,

(v) the unstructured text,

(vi) the form and at least a portion of the unstructured text,

(vii) at least a portion of the unstructured text,

(viii) at least a portion of the form and at least a portion of the unstructured

text,

(ix) a summary of the unstructured text, and

(x) the form and a summary of the unstructured text.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

10. The method of claim 4, wherein making available to the particular device a notification of the event, comprises:

sending at least one of

- (i) the form,
- (ii) the form and the unstructured text,
- (iii) an indication of the form and the unstructured text,
- (iv) the form and an indication of the unstructured text,
- (v) the unstructured text,
- (vi) the form and at least a portion of the unstructured text,
- (vii) at least a portion of the unstructured text,
- (viii) at least a portion of the form and at least a portion of the unstructured text,
- (ix) a summary of the unstructured text, and
- (x) the form and a summary of the unstructured text.

11. The method of claim 4, wherein a set of applications are executable by the particular device, and wherein making available to the particular device a notification of the event, comprises:

identifying an application from the set of applications executable by the particular device based on the type of event; and

invoking an interface associated with the identified application.

12. The method of claim 11, further comprising:

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

integrating information associated with the event notification with data managed by the identified application.

13. The method of claim 11, wherein the set of applications includes at least one of a calendar application for managing event data associated with a calendar; a task manager for managing event data associated with tasks; an address book for managing event data associated with contact information for entities; and a portfolio manager for managing event data associated with a portfolio.

14. The method of claim 4, wherein making available to the particular device a notification of the event, comprises:

forming an icon reflecting the event; and

sending data to the particular device to generate the icon.

15. The method of claim 4, wherein making available to the particular device a notification of the event, comprises:

forming an audio message reflecting the event; and

sending data to the particular device to generate the audio message.

16. The method of claim 4, wherein making available to the particular device a notification of the event, comprises:

forming a visual message reflecting the event; and

sending data to the particular device to generate the visual message.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

17. In a system comprised of a network having a central controller communicably connectable to a plurality of devices, a method for communicating information comprising:

receiving at the central controller content including unstructured text addressed to a particular device;

identifying in the content an event associated with a security;

forming an icon reflecting the event; and

transmitting data reflecting the icon to the particular device.

18. The method of claim 17, comprising:

upon receipt of a signal indicating selection of the icon, updating data managed by a portfolio manager to reflect the event.

19. The method of claim 17, wherein transmitting data reflecting the icon to the particular device, comprises:

transmitting the icon.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

20. In a system comprised of a network having a central controller communicably connectable to a plurality of devices, a method for communicating information comprising:

receiving at the central controller content including unstructured text addressed to a particular device;

identifying in the content an event associated with a security;

forming at least one of an audio message and a visual image reflecting the event; and

transmitting data reflecting the audio message or the visual image to the particular device for output to a user.

RECEIVED
JUN 10 1998
FBI
WASHINGTON, DC

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

21. A method for communicating information in a network having a set of clients and at least one server, comprising the steps, performed by a client, of:

executing a set of applications;

sending a request to the server using a first application from the set of applications; and

receiving a response to the request including a template with fields populated with text extracted from unstructured text of a source document and determined to be integratable with another one of the applications different from the first application.

22. The method of claim 21, further comprising the steps, performed by the server, of:

determining that the request is for a web page;

retrieving the web page; and

extracting text extracted from unstructured text in the web page.

23. The method of claim 21, further comprising the steps, performed by the server, of:

determining that the request is for an email message;

retrieving the email message from an email server application associated with the client; and

extracting text extracted from unstructured text in the email message.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

[illegible]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

25. A method for communicating information in a network having a set of clients and at least one server, comprising the steps, performed by a client, of:

providing a set of executable applications;

receiving a message formatted in a data representation language with data extracted from content including unstructured text and determined to be integratable with data managed by one of the applications; and

invoking a process to integrate data from the message with data managed by one of the applications.

2025 RELEASE UNDER E.O. 14176

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

26. A method for processing information in a network having a set of clients and at least one server, comprising the steps, performed by the server, of:

- storing for a client content including unstructured text;
- generating a form in a data representation language including data extracted from the content; and
- transmitting to the client a notification including the form.

27. The method of claim 26, wherein generating a form in a data representation language including data extracted from the unstructured text, comprises:

- populating fields of at least one stored template.

28. The method of claim 27, wherein the transmitting step includes:

- sending an instruction to prompt a user to cause the client to perform an operation on data in at least one field of the template.

29. The method of claim 27, wherein the transmitting step includes:

- sending an instruction to invoke a process associated with an application executed on the device to perform an operation on data in at least one field of the template.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

30. In a system comprised of a network having a central controller communicably connectable to a plurality of devices, a method for communicating information comprising:

- receiving at the central controller content addressed to a particular device;
- identifying in the content an event;
- specifying an icon reflecting the event; and
- transmitting a notification of the icon to the particular device.

31. The method of claim 30, wherein specifying an icon reflecting the event comprises:

- identifying among a plurality of stored images a stored image that best represents the event.

32. The method of claim 31, wherein transmitting a notification of the icon to the particular device, comprises:

- sending at least one of the identified image and data representing the identified image.

33. The method of claim 30, wherein transmitting a notification of the icon to the particular device, comprises:

- sending at least one of the icon and data representing the icon.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

34. The method of claim 30, wherein when data representing the icon is sent to the particular device, the particular device identifies among a plurality of stored images a stored image that best represents the event.

RECEIVED
JAN 11 1994
FBI
WASHINGTON, DC

LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

35. In a system comprised of a network having a central controller communicably connectable to a plurality of devices, a method for communicating information comprising:

receiving at the central controller content addressed to a particular device;

typing at least one item reflected by the content;

generating a form containing data extracted from the content; and

transmitting to the particular device a notification of the item.

RECEIVED
JAN 11 1991
FBI
WASHINGTON, DC

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

36. A system for communicating information comprising:

a processor; and

a memory storing instructions executable by the processor to

receive content addressed to a particular device,

perform an extraction process to generate a message in a data representation language containing data reflecting an event extracted from the content, and

make the message available to the particular device.

37. The system of claim 36, wherein when the processor executes the instruction to perform an extraction process to generate a message in a data representation language containing data reflecting an event extracted from the content, the processor

(a) tokenizes the content into a logical hierarchical tree representing parts of the content;

(b) applies to the logical hierarchical tree extraction pattern sets to recognize and tag proper names and pre-specified events in the content;

(c) links any anaphoric expression to its referent, in the content; and

(d) fills fields of templates with corresponding information from the content based on a result of the application of the pattern sets to the logical hierarchical tree, reflecting the linking of any anaphoric expression to its referent, in the content.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

38. A system for communicating information in a network having a plurality of devices, the system comprising:

a processor; and

a memory containing instructions executable by the processor to

receive content including unstructured text addressed to a particular device,

type at least one event reflected by the unstructured text,

generate a form containing data extracted from the unstructured text,

and

make available to the particular device a notification of the event.

39. The system of claim 38, wherein when the processor executes the instruction to type at least one event reflected by the unstructured text, the processor:

identifies the event in the unstructured text; and

identifies an event type for the event based on stored information reflecting event types.

40. The system of claim 38, wherein when the processor executes the instruction to generate a form containing data extracted from the unstructured text, the processor:

populates fields of a form selected from a set of forms based on the type of event with the data from the unstructured text.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

41. The system of claim 38, wherein when the processor executes the instruction to make available to the particular device a notification of the event, the processor:

transmits the notification of the event to the particular device.

42. The system of claim 38, wherein when the processor executes the instruction to make available to the particular device a notification of the event, the processor:

prompts a user for a request for at least one of

(i) the form,

(ii) the form and the unstructured text,

(iii) an indication of the form and the unstructured text,

(iv) the form and an indication of the unstructured text,

(v) the unstructured text,

(vi) the form and at least a portion of the unstructured text,

(vii) at least a portion of the unstructured text,

(viii) at least a portion of the form and at least a portion of the unstructured

text,

(ix) a summary of the unstructured text, and

(x) the form and a summary of the unstructured text.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

43. The system of claim 38, wherein when the processor executes the instruction to make available to the particular device a notification of the event, the processor:

sends at least one of

- (i) the form,
- (ii) the form and the unstructured text,
- (iii) an indication of the form and the unstructured text,
- (iv) the form and an indication of the unstructured text,
- (v) the unstructured text,
- (vi) the form and at least a portion of the unstructured text,
- (vii) at least a portion of the unstructured text,
- (viii) at least a portion of the form and at least a portion of the unstructured text,
- (ix) a summary of the unstructured text, and
- (x) the form and a summary of the unstructured text.

44. The system of claim 38, wherein a set of applications are executable by the particular device, and wherein when the processor executes the instruction to make available to the particular device a notification of the event, the processor:

identifies an application from the set of applications executable by the particular device based on the type of event; and

invokes an interface associated with the identified application.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

45. The system of claim 44, wherein the set of applications includes at least one of a calendar application for managing event data associated with a calendar; a task manager for managing event data associated with tasks; an address book for managing event data associated with contact information for entities; and a portfolio manager for managing event data associated with a portfolio.

46. The system of claim 38, wherein when the processor executes the instruction to make available to the particular device a notification of the event, the processor:

forms an icon reflecting the event; and

sends data to the particular device to generate the icon.

47. The system of claim 38, wherein when the processor executes the instruction to make available to the particular device a notification of the event, the processor:

forms an audio message reflecting the event; and

sends data to the particular device to generate the audio message.

48. The system of claim 38, wherein when the processor executes the instruction to make available to the particular device a notification of the event, the processor:

forms a visual message reflecting the event; and

sends data to the particular device to generate the visual message.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

49. A system comprising:

a network;

a central controller; and

a plurality of devices communicably connectable by the network to the central controller,

said central controller configured to receive content including unstructured text addressed to a particular device, identify in the content an event associated with a security, form an icon reflecting the event, and transmit data reflecting the icon to the particular device.

50. The system of claim 49, wherein the central controller is further configured to receive a signal indicating selection of the icon, and update data managed by a portfolio manager to reflect the event.

51. A system for communicating information in a network having a plurality of devices, comprising:

a processor; and

a memory containing instructions executable by the processor to perform a method, the method comprising:

receiving at the central controller content including unstructured text addressed to a particular device,

identifying in the content an event associated with a security,

forming at least one of an audio message and a visual image reflecting the event, and

transmitting data reflecting the audio message or the visual image to the particular device for output to a user.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

52. A system for communicating information in a network having at least one server, comprising:

a processor; and

a memory for storing instructions executable by the processor to perform a method, the method comprising:

executing a set of applications,

sending a request to the server using a first application from the set of applications, and

receiving a response to the request including a template with fields populated with text extracted from unstructured text of a source document and determined to be integratable with another one of the applications different from the first application.

52. A system for communicating information in a network having at least one server, comprising:

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

invoking a process to integrate data from the message with data managed by one of the applications.

[illegible]

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

54. A system for processing information in a network having a set of clients, comprising:

a processor; and

a memory for storing instruction executable by the processor to perform a method, the method comprising:

storing for a client content including unstructured text,

generating a form in a data representation language including data extracted from the content, and

transmitting to the client a notification including the form.

55. The system of claim 54, wherein generating a form in a data representation language including data extracted from the unstructured text, comprises:

populating fields of at least one stored template.

56. The system of claim 54, wherein transmitting to the client a notification including the form includes:

sending an instruction to prompt a user to cause the client to perform an operation on data in at least one field of the template.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

57. The system of claim 54, wherein transmitting to the client a notification including the form includes:

 sending an instruction to invoke a process associated with an application executed on the device to perform an operation on data in at least one field of the template.

57. The system of claim 54, wherein transmitting to the client a notification including the form includes:

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

58. A system for communicating information on a network comprised of a network having a plurality of devices, the system comprising:

a processor; and

a memory for storing instruction executable the processor to perform a method, the method comprising:

receiving at the central controller content addressed to a particular device,

identifying in the content an event,

specifying an icon reflecting the event, and

transmitting a notification of the icon to the particular device.

59. The system of claim 58, wherein specifying an icon reflecting the event comprises:

identifying among a plurality of stored images a stored image that best represents the event.

60. The system of claim 58, wherein transmitting a notification of the icon to the particular device, comprises:

sending at least one of the identified image and data representing the identified image.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

61. The system of claim 58, wherein transmitting a notification of the icon to the particular device, comprises:

sending at least one of the icon and data representing the icon.

62. The system of claim 61, wherein when data representing the icon is sent to the particular device, the particular device identifies among a plurality of stored images a stored image that best represents the event.

FOOTNOTES

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

63. A computer program product capable of configuring a data processor to communicate information in a network having a plurality of devices, the computer program product comprising program code to cause the data processor to perform the steps of:

- receiving content addressed to a particular device;
- typing at least one event reflected by the content;
- generating a form containing data extracted from the content; and
- making available to the particular device a notification of the event.

64. The computer program product of claim 63, wherein typing at least one event reflected by the content, comprises:

- (a) tokenizing the content into a logical hierarchical tree representing parts of the content;
- (b) applying to the logical hierarchical tree extraction pattern sets to recognize and tag proper names and pre-specified events in the content;
- (c) linking any anaphoric expression to its referent, in the content; and
- (d) filling fields of templates with corresponding information from the content based on a result of the application of the pattern sets to the logical hierarchical tree, reflecting the linking of any anaphoric expression to its referent, in the content.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

[illegible][illegible][illegible][illegible][illegible]

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

[illegible][illegible][illegible][illegible][illegible]

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

67. A system for communicating information in a network having a plurality of devices, the system comprising:

means for receiving at the central controller content addressed to a particular device;

means for identifying in the content an event;

means for specifying an icon reflecting the event; and

means for transmitting a notification of the icon to the particular device.

Patented by the U.S. Patent and Trademark Office

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000

68. A computer program product capable of configuring a data processor to communicate information in a network having a plurality of user devices, the computer program product comprising program code to cause the data processor to perform the steps of:

storing profile data for each one of a set of set of users;

obtaining content addressed to a particular user;

selecting a service to perform in connection with the content based on the stored profile data for the particular user; and

transmitting output including at least a portion of a result created by the selected service, to one of the user devices associated with the particular user.

69. The computer program product of claim 68, wherein the selected service is selected from a set of services, including a conversion service that converts content from a first form to a second form, an extraction service that extracts event information from content, a summarization service that generates a summary of content, and a categorization service that categorizes content, to provide the result.

LAW OFFICES

FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N. W.
WASHINGTON, DC 20005
202-408-4000